

Weekly Report

1 Done

1.1 Ubuntu

Prof. Ma allowed me to use a computer in the lab. However, the OS is ubuntu. I learnt how to use ubuntu commands and configured whatever I need.

1.2 Project

- Write two sections: Introduction and Design Requirements.
<https://www.overleaf.com/read/ynbpgxjsngfy>

1.3 Paper Reading

CGBayesNets: Conditional Gaussian Bayesian Network Learning and Inference with Mixed Discrete and Continuous Data

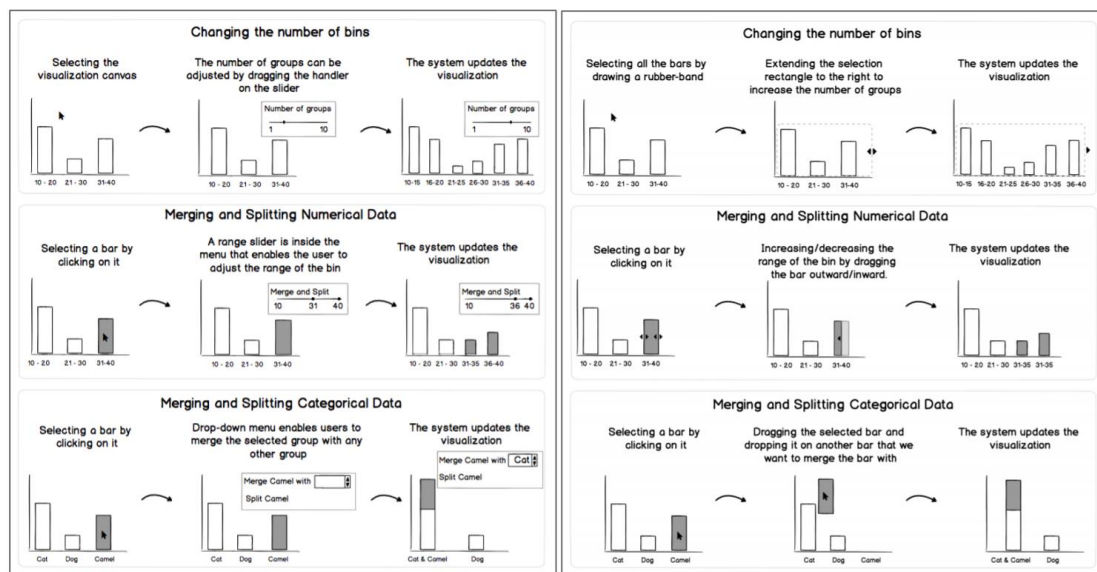
Naive Bayes networks are simple, in practice they can provide extremely good prediction. The opposite network structure – a phenotype node with many parents and no children – frequently results in very poor predictive performance, because a child node's distribution is conditional on the combination of values of each of its parents. As the number of parents of a node increases, the number of parameters describing the distribution of the child increases exponentially. For practical datasets, this can result in very few data points of each combination of parent values from which to estimate the phenotype's conditional distribution; a problem referred to as data fragmentation. This leads to poor estimation of the phenotype's distribution, and this in turn leads to poor prediction.

IDMVis: Temporal Event Sequence Visualization for Type 1

Diabetes Treatment Decision Support

This work presents hierarchical task abstraction to describe tasks in detail.

Embedded Merge & Split Visual Adjustment of Data Grouping



Authors provides sketches of two designs for interactions. The left one employs an in situ pop up to enable users to adjust data grouping criteria. And the right one uses embedded interaction to support adjustment of data grouping criteria.

A Heuristic Approach to Value-Driven Evaluation of Visualizations

This work evaluates the value of visualization by four quantified varieties.

$$V = T + I + E + C$$

with the following four components:

- T - A visualization's ability to minimize the total time needed to answer a wide variety of questions about the data
- I - A visualization's ability to spur and discover insights and/or insightful questions about the data
- E - A visualization's ability to convey an overall essence or take-away sense of the data
- C - A visualization's ability to generate confidence, knowledge, and trust about the data, its domain and context.
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2 Work Hours

Weekdays: 10:30-17:10 at lab and 19:30-21:30 at home.

Monday: 17:10-18:00 for group meeting.

Weekend: 16:00-18:00 and 19:30-21:00 at home.